FLUKE CATALOG

DISTRIBUTOR PRODUCTS

Analog/Digital Multimeters

3½-Digit Handheld Multimeters

4½-Digit Handheld Multimeters

DMM Accessories

Benchtop Multimeters

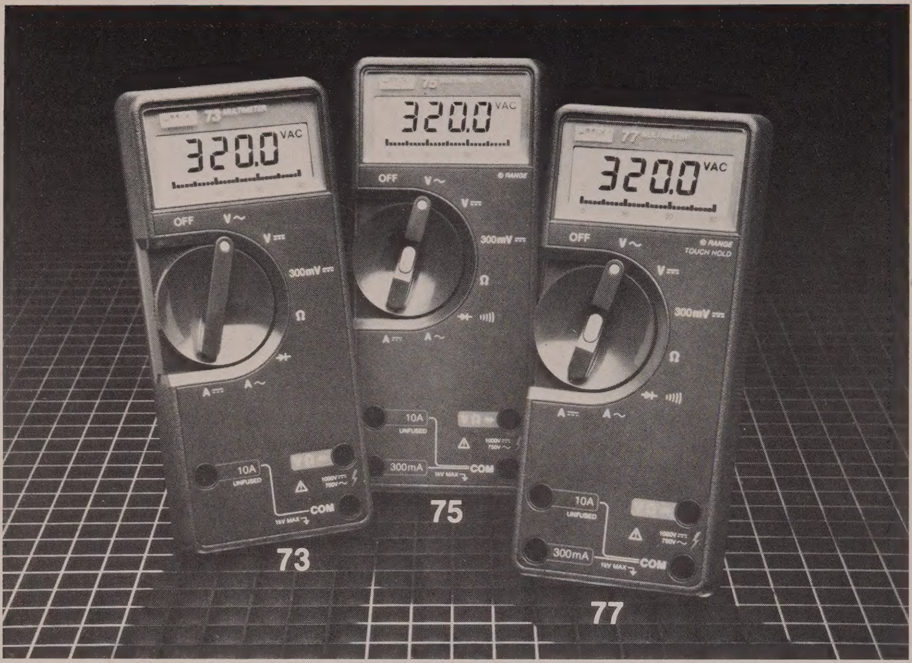
Digital Thermometers

Digital Counters

1984

FLUKE®

FLUKE ANALOG/DIGITAL MULTIMETERS



The Fluke 73, 75, & 77 —

These three microcomputer-based handheld multimeters are a distinctive new family. They represent the latest in what high technology can do to reduce cost — without compromising quality or capability. And they have features never before found in other DMM's, even the most expensive models. A proprietary A-to-D converter chip designed and built in Fluke microcircuit laboratories, and proprietary software developed by Fluke engineers, make it possible.

Operating any of the Fluke 70 Series Multimeters is exceptionally simple: Choose the function you want, connect the test leads, and the meter automatically selects the best range. For dc, polarity is automatically indicated *in the display* — you can't get the leads backwards. The display also reminds you what is being measured, ac or dc volts, amps, ohms, etc.

The most unique part of the display is a linear 32-segment LCD scale that corresponds to the full scale of an analog meter and the 3200-count numerical readout. The length of the scale, like the length of a bar graph, is proportional to the value being represented. The bar graph allows you to follow changes faster than you can read numbers — the same as with a conventional analog meter. So it excels at making critical "peaking" or "dipping" circuit adjustments.

A high-accuracy crystal oscillator controls the timing of the A/D converter assuring high noise rejection.

Fluke 73

The Fluke 73 shares the following distinctive features with both the 75 and the 77. All have:

- A 3200-count digital display, for 10 times better resolution than 2000-count meters for values like 24V dc or 220V ac.
- A corresponding 32-segment LCD analog bar graph display for fast peaking or nulling applications.
- A simplified foolproof panel, made possible by autoranging.
- 18 ranges — 15 automatically selected for dc and ac voltage and resistance.
- LCD annunciators that, in addition to giving you polarity, digits, and decimal point, tell you unmistakably *what* was measured and the magnitude.
- A compact, rugged, soil-resistant case.
- 2000-hour battery life.
- A battery-saving "sleep mode" provides automatic power down if you forget to turn power off.
- A 3-year limited warranty and a 1-year calibration cycle.
- Designed to meet worldwide safety standards.

Basic specifications:

- Five dc voltage ranges: 320 mV to 1000V
- Four ac voltage ranges from 3.2V to 750V
- Six resistance ranges from 320Ω to 32 MΩ
- Diode test function
- Current range to 10A, dc or ac
- 0.7% basic dc accuracy
- Overload protection to 1000V dc, 750V ac, except 500V rms for resistance
- Common mode voltage to 1000V dc

Fluke 75

- All of the features of Fluke 73 plus
- 0.5% basic dc accuracy
- Autoranging, with range hold and manual ranging
- Two additional current ranges — 320 mA and 32 mA — double-fuse protected
- Tone for fast continuity testing
- Beeper for diode test, range change, function change

In addition to all the features of the Fluke 73, the 75 Multimeter has *three* dc and ac current ranges, an audible beeper, better accuracy, and a pushbutton for deactivating autoranging and holding or changing ranges manually. Touching the pushbutton once prevents the meter from changing ranges. Some repetitive go, no-go checks are accomplished faster using just one range. So are many peaking and dipping checks using the 32-segment analog scale. Pushing the button momentarily a second time advances the range. Holding the pushbutton down for a couple of seconds restores autoranging.

A continuous audible tone indicates continuity of current paths of about 150 ohms or less. Good diodes or semiconductor junctions will produce a brief tone when forward biased.

Fluke 77

- All the features of the Fluke 75 and 73 plus
- 0.3% basic dc accuracy
- "Touch Hold" function (patent pending)
- Multipurpose protective "holster" included

Besides having all of the features of the Fluke 75 Multimeter, the Fluke 77 has better accuracy and a unique means of holding a reading after a test lead has been removed from a circuit or test point. As soon as the input and the contact is stable the DMM makes a distinctive audible chirp and holds the reading. The user can then remove the test leads and read the meter. Full attention may be devoted to probing the right test point and nothing else. "Touch Hold" reduces the chance of circuit damage when a probe tip slips and contacts two points at one time; reduces risk of electrical shock. Also, "Touch-Hold" gives the user time to log the reading if needed or refer back to the reading before the next test.

The multipurpose holster is made of a tough semiflexible plastic that snaps over the DMM. Both test probes may be snapped into the holster to keep meter and leads from getting separated. And one probe may be snapped into the holster in a position so just one hand may hold both the meter and probe tip in contact with a test point. You can slip the multimeter on your belt, around your neck by means of a strap, or tilt it back on a bail for bench use.

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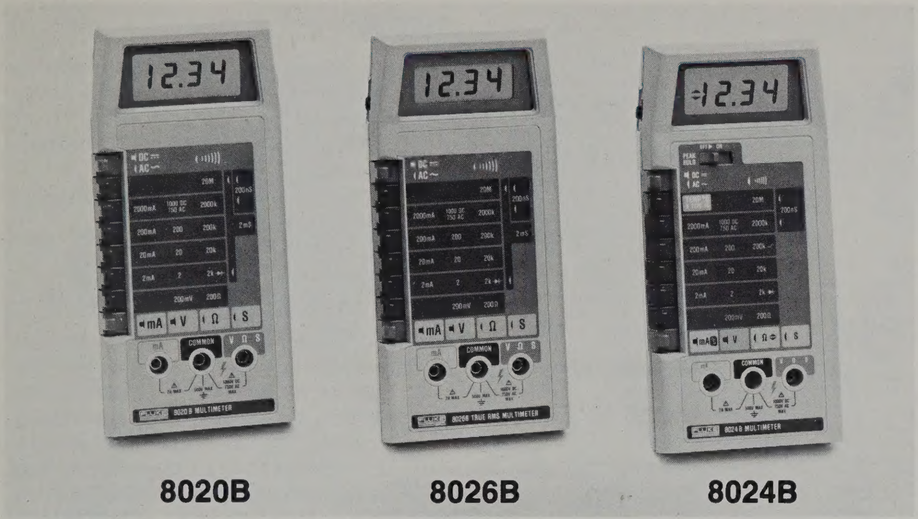
3½-DIGIT HANDHELD DMMs



8020B **8026B** **8024B**

The 8020B-Series —

These five DMM's have many things in common. All are part of a second generation of handheld digital multimeters that began with the 8020A, Fluke's first handheld DMM, introduced in 1977. The 8020A immediately became the world's leading DMM and is still an industry favorite. Now the proven reliability and steadfast accuracy of the 8020A are inherent in the entire B-series.

These 3½-digit DMM's have extensive overload protection, safety-designed jacks and test leads, simple one-hand range and function selection, a 2-year limited warranty, high- and low-power ohms ranges, a low-battery indicator, and include a 200-hour battery and a set of test leads. All models are housed in a rugged, shock resistant case having a locking tilt-bail and nonskid rubber feet. A color-coded front panel makes it easier to choose the function and range you need. The current input is protected with *two* fuses — to safely interrupt current from a high voltage source. A quality, high-accuracy crystal oscillator drives the A/D converter for unsurpassed noise rejection.

8022B

- 3½ digits (2000 counts)
- Five functions plus diode test
- 24 ranges
- 0.25% basic dc accuracy
- 2-year warranty
- Shock, vibration: MIL-T-28800, Class 5
- UL 1244 listed

The 8022B measures all of the things you expect of a basic digital multimeter: dc and ac voltage, dc and ac current, and resistance.

Of the six resistance ranges from 200Ω to 20 MΩ, three have enough source voltage to forward bias a silicon junction, allowing you to test diodes, transistors, etc. The other ranges allow you to make passive in-circuit resistance measurements when you prefer to disregard possible current paths through diodes, transistors, ICs, etc.

There are five voltage measurement ranges, from 200 mV to 100V for dc, 750V for ac.

The four dc and ac current ranges from 2 mA to 2A are protected by a 2A/250V fuse and a 3A/600V fuse in series.

8021B

- All the features of the 8022B, plus
- High-speed continuity beeper

The 8021B is like the 8022B in every respect except, in addition, the 8021B has a fast continuity-check mode. In that mode a short beep tone will indicate continuity whenever the test leads contact a conducting path. Contacts need to last only 50 microseconds to provide a tone lasting about 1/5 second. So, it is practically impossible to check for continuity too fast. Printed circuits, backplanes, cables, switches, etc. can be checked rapidly without even looking at the 8021B Multimeter.

8020B

- All the features of the 8022B and 8021B
- Plus conductance function
- Plus 0.1% basic dc accuracy

The 8020B is able to measure conductance, the reciprocal of resistance, extending the determination of high resistance values far beyond the 20 megohm typical top limit of most DMM's. Resolution on the 200 nanosiemens range is 0.1 nanosiemens. With the conductance function you can measure the leakage resistance of diodes, connectors, cables, printed circuit boards, transformer windings, etc. Fluke introduced this valuable function in 1977 in the 8020A, our first handheld DMM. The 8020B is an improved version of that proven, extremely reliable, widely emulated instrument.

8026B

- All the features of the 8020B, plus
- Measures true-rms ac voltage and current

The 8026B has the same functions as the 8020B but it will accurately measure ac voltages and currents that have a non-sinusoidal waveform. Most ac meters are only accurate when measuring sinewaves. In modern electronic and electrical equipment, however, measurement errors on the order of 20% or more may result from radically non-sinusoidal waveforms such as squarewaves, pulses, or the outputs from silicon controlled rectifiers. True-rms sensing circuits such as found in the 8026B prevent such errors.

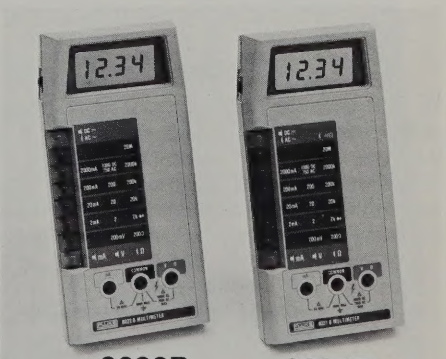
8024B

- All the features of the 8020B, plus
- Peak-hold for ac or dc transients
- Fast logic level and activity tests
- Temperatures from -20°C to 1265°C

The peak-hold function allows you to measure the peak amplitude of voltage or current pulses as narrow as 2 ms. Or you can measure the value of an ac voltage or current surge lasting only 150 ms. The decay rate of the readout is less than 1 digit per second so the mode is also very useful when making ordinary measurements to "hold" a reading after the test probe has been removed.

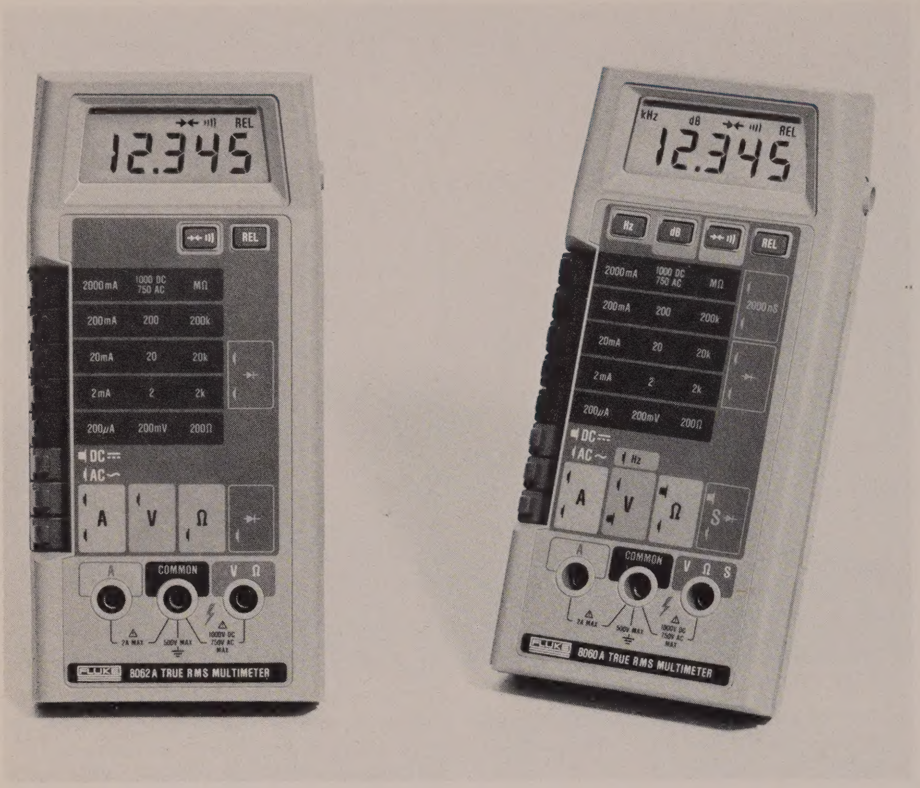
The level-detection mode instantly indicates the voltage conditions at a test point by means of a tone, and an up arrow (▲), a down arrow, (▼) and a minus sign in the display.

Temperature measurements from -20°C to 1265°C can be made with 8024Bs using K-type thermocouples, depending on the particular thermocouple. The Y8102 Sheathed Thermocouple is good for liquid immersion measurements to 926°C (1700°F). The Y8103 Bead Thermocouple is a low-mass thermocouple for measurements to 260°C (500°F). A surface temperature probe, the 80T-SP, measures from -20°C to 260°C. The Y8104 Thermocouple Termination plugs into the 8024B and may be used with any other K-type thermocouples.



8022B **8021B**

4½-DIGIT HANDHELD DMMs

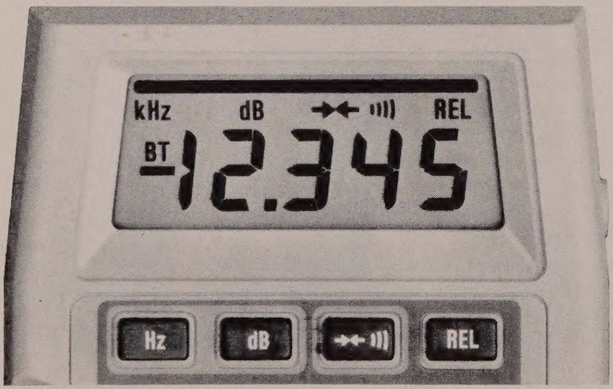


The 8060A and 8062A 4½-digit true-rms DMMs

These two 4½-digit handheld DMM's offer far more measurement capabilities than found in most bench/portable DMM's. They are Fluke's first *microcomputer-based* handheld DMM's and consequently offer unique and valuable features never before found in a small low-cost DMM. The 8060A even measures *frequency* — from 12 Hz to more than 200 kHz — autoranging over four decades from 200 Hz to 200 kHz.

The microcomputer lets you automatically do such things as subtract lead resistance when measuring ohms, convert voltage to dB or dBm, average each set of updated measurements to reduce noise, take the reciprocal of period measurements to indicate frequency, and display only the difference between a stored reference value and a measured value. Three self-test diagnostic routines are built in. One test occurs each time the power switch is turned on.

The 8060A and 8062A are exceptionally well-suited to the needs of engineers, technicians, and hobbyists skilled in audio, video, telecommunication, or computer technology. They are designed using the same rugged case and safety engineered jacks, test leads, and double-fused current inputs found on other Fluke handheld DMM's. And the same extensive overload protection is built in for the other functions and ranges.



With the 8060A, frequency, decibels, continuity, or relative reference mode is selected with one of four pushbuttons. The choice is indicated in the display.

8062A

- Stable 4½-digit (20,000 count) resolution
- 0.05% basic dc accuracy
- True-rms ac voltages to 30 kHz
- Fast audible and/or visual continuity tests
- Relative reference (offset)
- Low-power ohms on all resistance ranges
- Constant-current diode test mode
- Measures resistances to 300 MΩ
- Self diagnostics
- 1-year warranty and calibration cycle

Because the 8062A has several unique modes, several special annunciator symbols may appear in the LCD readout. For example REL will appear when the relative reference button has been pushed — a helpful reminder to any operator. The 300 MΩ top resistance range in the 8062A is fifteen times higher than the usual 20 MΩ. To keep the front panel simple, there is only one manually-selectable position above 200 kΩ. When that position is used, the appropriate 2 MΩ, 20 MΩ, or 300 MΩ range is automatically selected.

There are five ac and dc voltage ranges on the 8062A from 200 mV to 1000V for dc, to 750V for ac. Resolution is 10 μV on the 200 mV range. True-rms ac accuracy is specified to 30 kHz. Basic ac accuracy is 0.5%.

There are four ac and dc current ranges on the 8062A from 20 mA to 2A. Resolution is 10 nA on the 20 mA range.

8060A

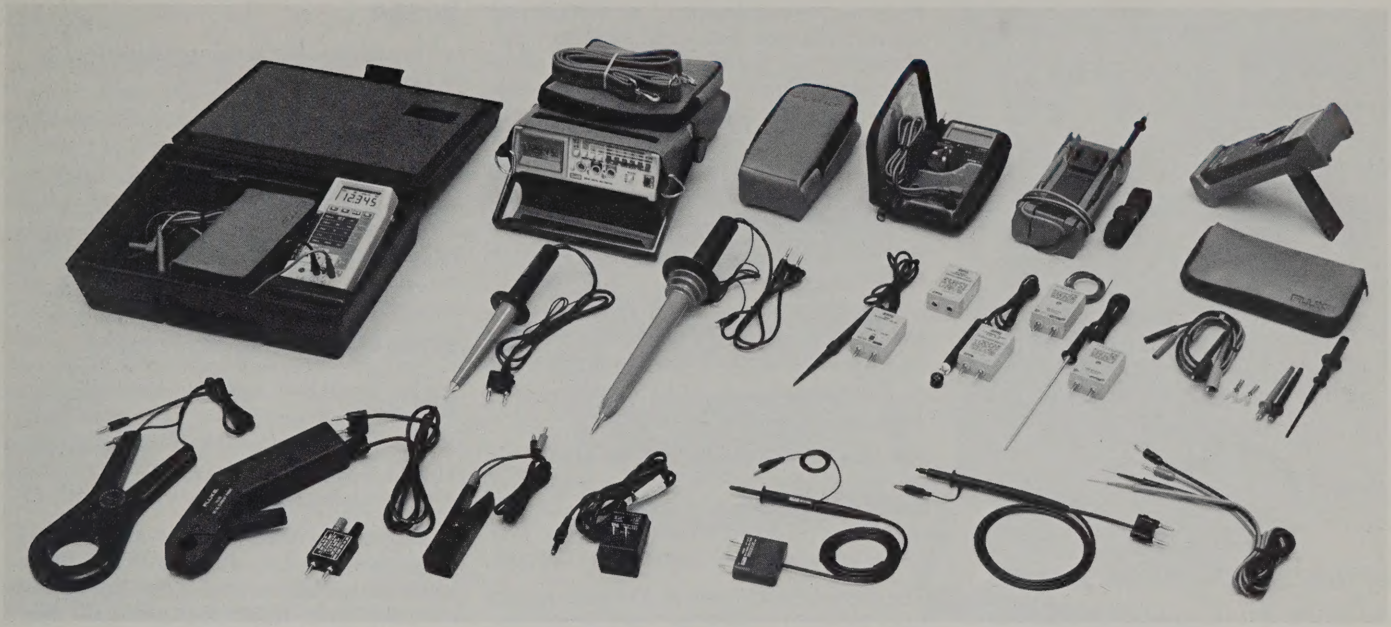
- All the features of the 8062A, plus
- *Frequency*... 12 Hz to 200 kHz
- True-rms ac voltages to 100 kHz
- 0.04% basic dc accuracy
- 0.2% basic ac accuracy
- dBm or relative dB measurements
- Conductance measurements

It is easy to accurately measure the dB gain or loss of amplifiers, filters, attenuators, etc. with a DMM that has dB readout. To combine that feature in a handheld DMM that also measures *frequency* provides a nearly ideal test instrument for many applications. LCD annunciators appear in the display when the dB or Hz pushbuttons are used to select one of those modes.

Because true-rms measurements of ac yield accurate results on non-sinusoidal waveforms as well as sinewaves, the 4½-digit resolution, wide bandwidth, and exceptional accuracy of the 8060A make it a superior tool for professional and exacting technical people.

When you need the best in a handheld DMM, you should buy the 8060A. It has features you won't find even in most bench/portable DMM's.

DMM ACCESSORIES



(A) 80I-600 Current Transformer
Measures ac current from 1A to 600A. Division ratio is 1000 to 1. Clamps over conductors to 5 cm (2 in) in diameter. Accuracy is ±3% from 30 Hz to 1 kHz.

(B) Y8100 DC/AC Current Probe
Battery-powered Hall-effect clamp-on probe with switch-selectable 200A or 20A current range. Produces 2V full range output. For conductors to 1.9 cm (0.75 in) in diameter. Accuracy is ±2% of range from dc to 200 Hz.

(C) 80J-10 20A Current Shunt
Precision 0.01Ω current-sensing resistor will pass 10A continuously. 20A for one minute. Accuracy is ±0.25% from dc to 10 kHz.

(D) Y8101 Current Transformer
Measures ac current from 2A to 150A. Division ratio is 1000 to 1. Clamps over conductors to 1.1 cm (7/16 in) in diameter. Accuracy is ±2% of reading from 48 Hz to 10 kHz for 10A to 150A currents.

(E) A81 Battery Eliminator
Lets you operate any 80XX- Series handheld DMM without a battery. Available for 100, 115, 230V ac operation.

(F) 80T-H Touch-Hold Probe
For use with the Fluke 8010A, 8012A, or 8050A. For measuring voltage or resistance in hard-to-reach places. Touch a button on the probe to hold any reading.

(G) 83RF High Frequency Probe
Dc output for high frequency ac voltage inputs from 0.25 to 30V rms. Frequency response is 100 kHz to 100 MHz. Accuracy is ±1.0 dB above 1V input.

85RF High Frequency Probe
Not shown. Same as 83RF except better accuracy: ±0.5 dB for inputs ⩾0.5V. Useable to 500 MHz.

(H) Y8140 Slim-Flex Test Leads
Retractable needlepoint probes, insulated to tip, flexible in extended position.

(I) 80K-6 High Voltage Probe
Division ratio is 1000 to 1. Extends voltage-measurement capabilities of voltmeter to 6000V dc or peak ac. Accuracy is ±1.0%, dc to 500 Hz, and ±2.0%, 500 Hz to 1 kHz.

(J) 80K-40 High Voltage Probe
Division ratio is 1000 to 1. Measures up to 40 kV dc or 28 kV rms ac. Has 1000 MΩ input resistance. Dc accuracy is ±2% from 20 to 30 kV and decreases linearly to ±4% at 1 kV and 40 kV. Accuracy is ±5% at 60 Hz.

(K) 80T-150C Temperature Probe
Universal temperature probe for DMM's. Reads from -50°C to +150°C. Accuracy is ±1°C to 100°C with 0.1° resolution. For air, surface, some liquids.

80T-150F Temperature Probe
Not shown. Same as above except set for °F. Has a range of -58°F to +302°F.

(L) Y8104 Thermocouple Term
Isothermal block and terminals for adapting Type-K thermocouple wire to 8024B via double-banana-jacks.

(M) 80T-SP Surface Temp Probe
K-type thermocouple probe for use with 8024B, measures up to 260°C.

(N) Y8103 Bead Thermocouple
Teflon-insulated K-type thermocouple for 8024B measures -20°C to +260°C. Exposed bead provides fast response. Length is 1.2m (4 ft). General purpose.

(O) Y8102 Thermocouple Probe
K-type thermocouple probe for 8024B measures -20°C to +925°C. With 6-inch Inconel sheath. For liquids.

(P) Y8134 Deluxe Test Lead Kit
Interchangeable tips: 2 Alligator clips, 2 spade lugs, and 1 retractable hook tip as well as standard pointed tips. Banana plugs have insulating shield. Fit new handheld DMM's and 8050A. Includes carrying pouch.

Y8133 Universal Test Lead Kit
Not shown. Like Y8134 except banana plugs don't have insulating shield.

(Q) Y8105 Ruggedized Case
Provides maximum protection against rough handling and bad weather. For Fluke Handheld DMM's.

C86 Ruggedized Case
Not shown. Same as Y8105. For 8010A, 8012A and 8050A.

(R) Y8205 Zippered Case
For 8010A, 8012A, or 8050A. Has shoulder strap and pouch for test leads, etc.

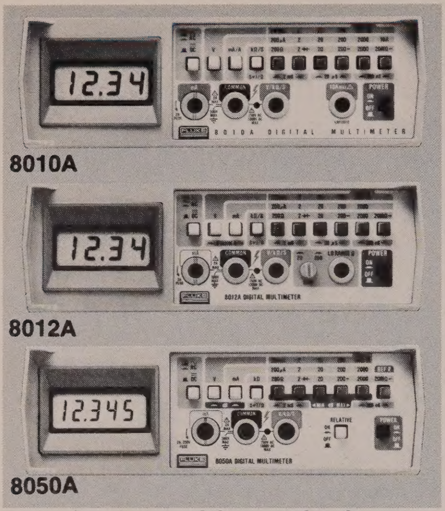
(S) C90 Zippered Case
Soft-sided, fabric-backed vinyl with zipper and padded interior. Holds 80XX-Series handheld DMM's and test leads.

(T) C71 Softcase
Vinyl case with belt loop. For Fluke 73, 75, or 77 Multimeter. Holds meter, manual, and leads ready for testing.

(U) C70 Multipurpose Holster
For Fluke 73, 75, or 77 Multimeter. Shock absorbing plastic for rough handling. Holds test leads. One probe may be snapped into holster so one hand may hold both meter and probe tip in contact with test point. Tilt stand for bench use. Neck strap. Belt hook.

(V) C70 Same as above.

BENCH/PORTABLE DMMs



More functions and features for the money

8010A/8012A/8050A DMM's

The 8010A, 8012A, and 8050A DMM offer more functions and features for the money than any other bench DMM's you can buy. They all have these important features in common:

The Conductance function lets you check resistance hundreds of times higher than the 20 MΩ limit of most DMM's.

True-rms measurements of ac voltage and current assures not only accuracy for sinewaves, but assures accuracy for other waveforms, from square waves to pulse-shaped signals. Measurement errors may approximate 20% otherwise.

Accuracy specs to 50 kHz, and a typical bandwidth to 200 kHz, assures recognition of harmonics of lower frequency signals as well as extending sinewave measurements to this range.

High- or low-power ohms mean you can check in-circuit resistances without turning on diodes, or check diodes if you prefer.

One year accuracy specifications reduce calibration costs.

The 80T-H Touch-Hold Probe (optional) lets you make voltage or resistance measurements in crowded, hard-to-reach, or hazardous places without taking your eyes off the probe until removed from the circuit.

The three DMM's have five voltage ranges from 200 mV to 1000V (to 750V for ac), five current ranges from 200 μA to 2A (plus a 10A range for the 8010A) and six resistance ranges from 200Ω to 20 MΩ (plus a 2Ω and 20Ω range for the 8012A.)

8010A

- Our lowest-cost bench portable DMM
- True-rms for ac accuracy
- Current to 10 amps
- 0.1% basic dc accuracy

The 8010A is for people who need an accurate, reliable, rugged, bench/portable DMM with standard measurement capabilities plus the unique capabilities described earlier. The added value makes Fluke an easy choice.

8010A-01 w/rechargeable battery

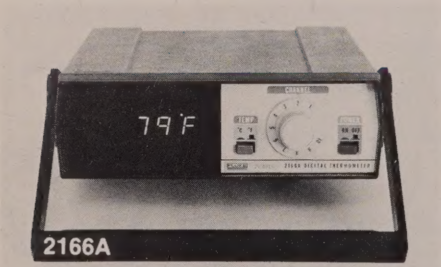
8012A

- World's widest-range 3½-digit ohmmeter
- True RMS for ac accuracy
- 0.1% basic dc accuracy

The 8012A has two additional low resistance ranges compared to most DMM's — 20Ω and 2Ω. Resistance measurements extend from 0.001Ω to 10,000 MΩ (using the conductance function). Check transformer winding resistance *and* leakage!.

8012A-01 w/rechargeable battery

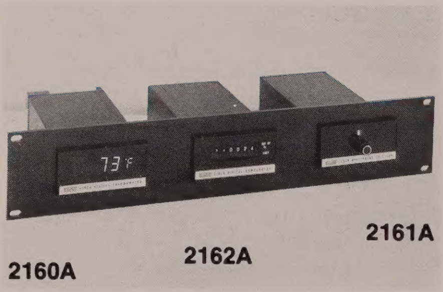
DIGITAL THERMOMETERS



Panel size of all bench/portable models is 2.5 x 8.6 inches

The 2160- and 2170-Series Digital Thermometers read the temperature of thermocouples. Temperature resolution of 1 degree or 0.1 degrees is available in either panel mount or portable bench models. The compact panel mounted versions conform to DIN Standards and are designed for use in industrial environments. Advanced Fluke LSI technology means low parts count, low power consumption and high reliability. Temperature scale selection (°F or °C) is easily accomplished. The panel mount instruments may be calibrated in place without removal from the panel.

Superior conformity to NBS curves is achieved with 48 straight line segments which have been computer-optimized for best possible curve fit for each thermocouple type. All models feature a high intensity LED display. Open thermocouple indication is provided by a blinking display on all models.



Panel-mount modules in a standard 19-inch rack panel

2165A Single Point Thermometer
Front panel selection of °C or °F, 1 degree resolution.

2175A Single-Point Thermometer
Resolution is 0.1 degrees.

2166A Multi-Point Thermometer
Like the 2165A except 10-position front panel rotary switch lets you monitor up to ten thermocouples of the same type. Power is either ac line voltage or external 12V dc.

2176A Multi-Point Thermometer
Like the 2166A except resolution is 0.1 degrees.

2168A Multi-Type Thermometer
8-position front panel rotary switch lets you select circuit linearization for either a J, K, T, E, R, S, B, or C type thermocouple.

2160A Panel Thermometer
Readout of °C or °F is selectable with internal jumper. Panel size is 48 mm by 96 mm, conforming to DIN Standard. Resolution is 1 degree.

2170A Panel Thermometer
Like 2160A but resolution is 0.1 degrees.

2161A Panel Multi-Point Selector
Rotary switch for use with 2160A or 2170A. Selects any one of ten thermocouples of the same type. An eleventh switch position permits cascading 2161A units. Panel size is same as 2160A.

2162A Panel Limit Comparator
Digital comparator compatible with 2160A or 2170A. six thumbwheel switches select high or low limit, polarity, and four limit digits. Out-of-limit reading causes visual

8050A

- 4½ digits & microprocessor-based
- 0.03% basic dc accuracy
- Direct dBm readout...15 impedances
- Direct relative dB readout
- Offset (±difference) measurements

The 8050A is like nothing you have seen before in a low-cost bench/portable digital multimeter. First, it has 10 times the resolution of 3½-digit DMM's and extraordinary accuracy. Being microprocessor-based, it can store any reading as an offset and algebraically subtract it from subsequent measurements, yielding a direct ± difference. The offset capability lets you avoid calculations. Makes it easy to check tolerances, match components, fast — and with much better accuracy.

The microprocessor will also convert voltage directly to dB — either compared to your stored (relative) reading or compared to 1 milliwatt (dBm) and your choice of 15 impedances from 50Ω to 1200Ω. Decibel readings make gain and attenuation measurements easy. 20 Hz to 20 kHz voltages as small as 0.77 mV rms and as high as 200V rms can be measured with a mid-range accuracy of ±0.15 dB.

8050A-01 w/rechargeable battery

indication and alarm contact closure. Units may be cascaded for setting dual limits.

2165A-01 Battery Pack Option
For 2165A or 2175A. Mounts inside. Rechargeable, eight hours of operation.

2160A-02 Digital Output Option
For 2165A, 2175A, 2160A, or 2170A. Provides parallel BCD data equivalent to displayed measurement data. Field installable but not compatible with Option -04.

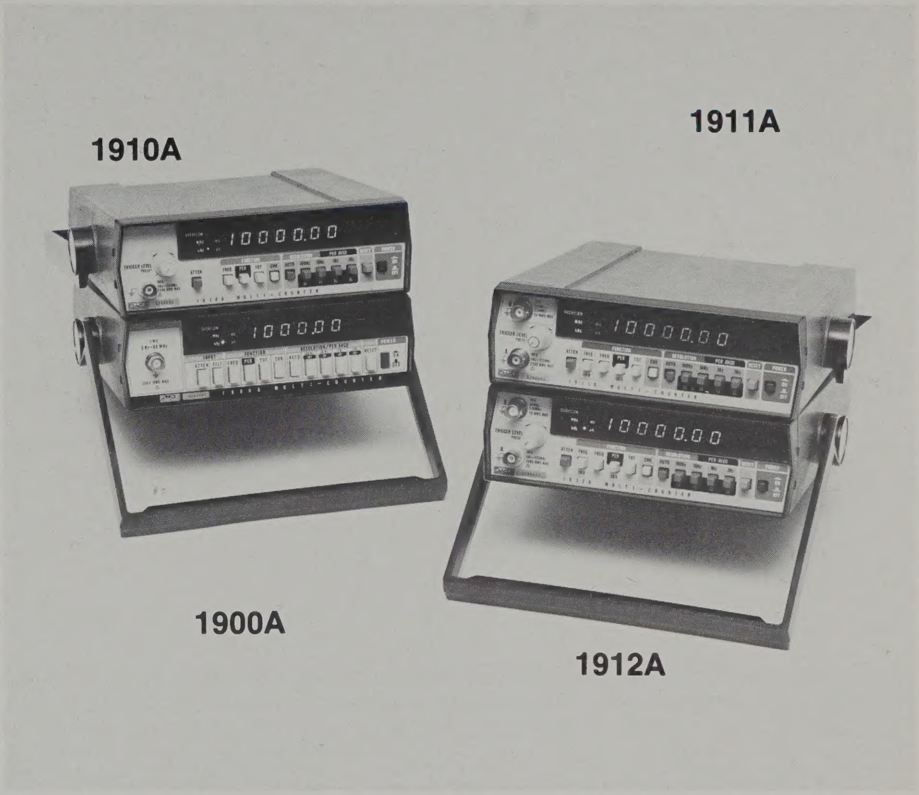
2160A-04 Analog Output Option
For 2165A, 2175A, 2160A, or 2170A. Provides output voltage proportional to displayed data. For chart recorders, etc. Field installable but not compatible with Option -02.

Accessory J, K, T, and E type thermocouple probes are available with INCONEL shields for immersion measurements.

P20E Probe
P20J Probe
P20K Probe
P20T Probe

Rackmount hardware and carrying cases are also available.

DIGITAL COUNTERS



Fluke's versatile 1900-Series Multifunction Counters provide frequency, period, and totalize measurements over a wide range of applications. In the frequency mode, they verify the accuracy of signal sources such as generators, oscillators, and transmitters. Period mode measures the time duration of single input cycles, which allows fast, high resolution of low frequency measurements. In period average mode, the counter averages cycle time over 10, 100, or 1000 cycles for still finer resolution. Totalize mode is similar to frequency mode except the signal gate is opened and closed deliberately, a feature useful for totalizing the cycles in a single RF burst or counting relay contact bounce, for example.

At high frequencies, where erratic triggering is most apt to cause erroneous measurements, the 1911A and 1912A 50 ohm input channels have "automatic clean drop out" — the reading goes to zero instead of being intermittent. All models are available with an internal rechargeable battery providing at least 4 hours of operating time. Recharge time is 16 hours.

Sensitivity: 25 mV rms on 1900A, 15 mV rms on 1910A, 1911A, 1912A, at 50 MHz.
Impedance: 1 MΩ shunted by 30 pF. Additional 50Ω input on 1911A and 1912A
Frequency Resolution: Four manually-selected gate times provide resolution of 100 Hz to 0.1 Hz in decade steps
Period: 5 Hz to 1 MHz. Period-average mode provides resolution of 100 ns to 100 ps
Timebase Aging: ±5 x 10^{-7} per month
Temperature Stability: ±5 ppm, 0°C to 50°C
Display: LED, leading zero suppression, annunciation, and overflow
Autoranging: Automatically changes range seeking to fill all digits. 20% hysteresis allows measurements to be made on signals containing large amounts of FM and ϕM
Autoreset: Every time a front panel button is activated
Data Output Option (-02): Seven digits of BCD data with overflow, decimal point and units information

Models

1900A 80 MHz Counter
1900A-01 with battery
1900A-02 with data output
1910A 125 MHz Counter
1910A-01 with battery
1911A 250 MHz Counter
1911A-01 with battery
1912A 520 MHz Counter
1912A-01 with battery

Options (for 1910A, 1911A, 1912A)

1910A-02 Data output
1910A-03 2 ppm TCXO
1910A-04 0.5 ppm TCXO

SELECTION GUIDES

DMM Selection Guide

Models	Basic Features							DC Volts			AC Volts				AC & DC Amps		Ohms & 1/Ω *(1)*				Hertz		
	Number of Digits	Display	Offset/Relative Ref	dB, dBm Readout	Continuity & Beeper	Peak-Hold, AC/DC	Basic Accuracy Percent of Reading	Maximum Resolution Microvolts	Lowest Range Millivolts	Maximum Voltage (w/o Probe)	Maximum Resolution Microvolts	Maximum Voltage (w/o Probe)	True RMS	Frequency	Resolution	Maximum Current (w/o Probe)	Maximum Resolution Milliohms	Maximum Resistance Megohms	Conductance (1)	Autoranging Megohm	Maximum Resolution Hz	Maximum Count kHz	Basic Accuracy
Battery/Portable DMM's																							
8050A *(3)*	4½	LCD	•	•	—	—	0.03	10	200	1000	10	750	•	50 kHz	10 nA	2A	10	20	•	—	—	—	—
8010A *(3)*	3½	LCD	—	—	—	—	0.1	100	200	1000	100	750	•	50 kHz	100 nA	10A	100	20	•	—	—	—	—
8012A *(3)*	3½	LCD	—	—	—	—	0.1	100	200	1000	100	750	•	50 kHz	100 nA	2A	1.0	20	•	—	—	—	—
Handheld DMM's																							
8024B* *(2)*	3½	LCD	—	—	•	•	0.1	100	200	1000	100	750	—	5 kHz	1 μA	2A	100	20	•	—	—	—	—
8020B *(2)*	3½	LCD	—	—	•	—	0.1	100	200	1000	100	750	—	5 kHz	1 μA	2A	100	20	•	—	—	—	—
8021B *(2)*	3½	LCD	—	—	•	—	0.25	100	200	1000	100	750	—	450 Hz	1 μA	2A	100	20	—	—	—	—	—
8022B *(2)*	3½	LCD	—	—	—	—	0.25	100	200	1000	100	750	—	450 Hz	1 μA	2A	100	20	—	—	—	—	—
8026B *(2)*	3½	LCD	—	—	•	—	0.1	100	200	1000	100	750	•	10 kHz	1 μA	2A	100	200	•	—	—	—	—
8060A *(2)*	4½	LCD	•	•	•	—	0.04	10	200	1000	10	750	•	100 kHz	10 nA	2A	10	300	•	•	0.01	700	0.05
8062A *(2)*	4½	LCD	•	—	•	—	0.05	10	200	1000	10	750	•	30 kHz	10 nA	2A	10	300	—	•	—	—	—
73 *(2)*	3½	LCD	—	—	—	—	0.7	100	320	1000	100	750	—	10 KHz	10 mA	10A	100	32	—	•	—	—	—
75 *(2)*	3½	LCD	—	—	•	—	0.5	100	320	1000	100	750	—	10 KHz	10 μA	10A	100	32	—	•	—	—	—
77 *(2)*	3½	LCD	—	—	•	*(4)*	0.3	100	320	1000	100	750	—	10 KHz	10 μA	10A	100	32	—	•	—	—	—

*• Standard — No or not applicable * 8024B also measures temperature using K-type thermocouple*
(1) Conductance (1/Ω) measurements equivalent to more than 100 times greater than 20 MΩ
(2) Listed by UL to Safety Standard UL 1244 (4) Touch-hold function included in Model 77
(3) Factory Mutual approved

Compatible & Recommended DMM Accessories

ACCESSORIES	DIGITAL MULTIMETERS													
	8010A	8012A	8020A	8021B	8022B	8024B	8026B	8040A-01	8050A	8060A	8062A	73	75	77
Test Lead Sets														
TL70 *(2)*			•	•	•	•	•	•	•	•	•	•	•	•
Y8131 *(2)*	•	•	—	—	—	—	—	•	—	—	—	—	—	—
Y8132 *(2)*	—	—	•	•	•	•	•	—	•	•	•	•	•	•
Y8133 *(3)*	•	•	—	—	—	—	—	•	—	—	—	—	—	—
Y8134	—	—	•	•	•	•	•	—	•	•	•	•	•	•
Y8140 *(3)*	•	•	•	•	•	•	•	•	•	•	•	•	•	•
High Voltage Probes														
80K-6 *(3)*	•	•	•	•	•	•	•	•	•	•	•	•	•	•
80K-40 *(3)*	•	•	•	•	•	•	•	•	•	•	•	•	•	•
High Frequency Probes														
83RF *(3)*	•	•	•	•	•	•	•	•	•	•	•	•	•	•
85RF *(3)*	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Touch-Hold Probe														①
80T-H	•	•	—	—	—	—	—	—	•	—	—	—	—	—
Temperature Probes														
80T-150 C/F *(3)*	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Y8102	—	—	—	—	—	•	—	—	—	—	—	—	—	—
Y8103	—	—	—	—	—	•	—	—	—	—	—	—	—	—
Y8104	—	—	—	—	—	•	—	—	—	—	—	—	—	—
80T-SP	—	—	—	—	—	•	—	—	—	—	—	—	—	—
Clamp-on Current Probe/Xfmr														
80I-600 *(3)*	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Y8100 *(3)*	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Y8101 *(3)*	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Current-Measuring Shunt														
80J-10 *(3)*	•	•	•	•	•	•	•	•	•	•	•	②	②	②
Cases & Panel Protector														③
C71, C70	—	—	—	—	—	—	—	—	—	—	—	•	•	•
C86	•	•	—	—	—	—	—	—	•	—	—	—	—	—
C90	—	—	•	•	•	•	•	—	—	•	•	•	•	•
Y8105	—	—	•	•	•	•	•	—	—	•	•	—	—	—
Y8205	•	•	—	—	—	—	—	—	•	—	—	—	—	—
Y8206	—	—	—	—	—	—	—	•	—	—	—	—	—	—
Battery Eliminator														
A81-115 *(4)*	—	—	•	•	•	•	•	*(1)*	—	•	•	—	—	—

• Means compatible and recommended
— Not compatible, not recommended, or not applicable
(1) Included with DMM
(2) Listed by UL to Safety Standard UL 1244
(3) Factory Mutual approved
(4) UL regionised

① Touch-hold function included in Model 77
② Not necessary
③ C70 Holster comes with Model 77

Counter Buyer's Guide

Features	1900A	1910A	1911A	1912A
Number of Digits	6	7	7	7
Frequency (MHz)	80	125	250	520
Period & Period Average	•	•	•	•
Totalize	•	•	•	•
Ratio (w/ext. timebase)		•	•	•
Sensitivity(mV rms 50 MHz)	25	15	15	15
Trigger Level Control		•	•	•
Automatic Clean Dropout			•	•
External Timebase Input		•	•	•
Battery Option	•	•	•	•
TCXO Options		•	•	•
Digital Output Option	•	•	•	•
Autoreset	•	•	•	•
Autorange or Manual	•	•	•	•

Thermometer Buyer's Guide

Features	2160A	2165A	2166A	2168A	2170A	2175A	2176A
Portable or panel mount	Panel	Port	Port	Port	Panel	Port	Port
Resolution °C or °F	1°	1°	1°	1°	0.1°	0.1°	0.1°
Temperature range	-328 to 3999°F or -200 to 2320°C				-99.9 to 999.9°F or -99.9 to 999.9°C		
Thermocouple types*	J, K, T, E, R, S, B, C*				J, K, T, E*		
Switch-Selectable types	1	1	1	8	1	1	1
Selectable points	1	1	10	1	1	1	19

**Specify thermocouple type when ordering. However, conversion kits are available.*

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